multiplied by a bias factor. A bias factor is simply a factor which correlates the scoring systems for the various recognition domains. Next, in a step **400**, it is determined if the lowest rank score of the word unit **388** is less than the average of the lowest rank scores of the shape units **390–394**. If the word unit **388** has the lowest rank, the word is chosen as the "best guess" in step **402** and the process is completed at step **406**. Otherwise, the shapes are chosen as the "best guess" in a step **404** and the process is again completed at step **406**.

While this invention has been described in terms of several preferred embodiments, there are alterations, permutations, and equivalents which fall within the scope of this invention. It is therefore intended that the following appended claims be interpreted as including all such alterations, permutations, and equivalents as fall within the true spirit and scope of the present invention.

What is claimed is:

1. A recognition system for a pen-based computer system having a stylus, a processing means capable of running an application program, and a display suitable for displaying an output directed by said application program, the recognition system comprising:

tablet means for inputting strokes from a stylus;

low level recognizer means responsive to said strokes inputted through said tablet means and operative to perform low level recognition on said strokes, including the recognition of a plurality of gestures, the low level recognizer means being capable of running on said processing means;

high level recognizer means independent of the low level recognizer means and responsive to stroke objects that are not recognized by said low level recognizer and operative to perform high level recognition on strokes that are not recognized by said low level recognizer, the high level recognizer means being capable of running on said processing means; and

a recognition interface permitting independent communication between said low level recognizer means and an application program, and permitting independent communication between said high level recognizer and said application program to permit the application program to utilize recognized information to direct the output to said display;

whereby processing efficiency is increased by permitting the low level recognizer to recognize certain stroke objects and not requiring stroke objects recognized by the low level recognizer to be handled by the high level recognizer and thereby avoiding at least some preprocessing that is required by the high level recognizer.

2. A recognition system as recited in claim **1** wherein said low level recognizer means recognizes gestures made with said stylus on said tablet means.

3. A recognition system as recited in claim **1** wherein said high level recognizer means comprises:

controller means; and

a plurality of recognition domains coupled to said controller means.

4. A recognition system as recited in claim **3** wherein said high level recognizer further includes arbitration means coupled to said controller means for resolving multiple interpretations provided by said plurality of recognition domains.

5. A recognition system as recited in claim **4** wherein said high-level recognizer further includes database means coupled to said controller means.

6. A recognition system as recited in claim **5** wherein said high-level recognizer further includes recognition area means coupled to said controller means.

7. A recognition system as recited in claim **4** further comprising stroke unit forming means coupled to said tablet means, wherein said controller means is responsive to stroke units formed by said stroke unit forming means.

8. A recognition system as recited in claim **7** wherein said recognition domains produce recognized units.

9. A recognition system as recited in claim **8** wherein said recognition interface is receptive to stroke units and recognized units from said high-level recognizer means.

10. A recognition system as recited in claim **9** wherein said high-level recognizer means is receptive to returned units and to area registration information from said recognition interface.

11. A recognition system for use in a computer system having a processor arrangement capable of running an application program, output means for outputting symbols directed by the application program, and input means for receiving input signals to be recognized, the recognition system comprising:

a controller capable of receiving units to be recognized, the units for recognition being based at least in part on received input signals;

a plurality of independent recognition domain means, each having a data portion and a procedures portion wherein the procedures portion communicates with the controller and has access to the associated data portion, and wherein each of said recognition domain means can receive one or more units from said controller and is capable of providing an interpretation of said one or more received units to said controller; and

arbitration means coupled to said controller, the arbitration means being capable of resolving conflicts between multiple interpretations developed by the independent recognition domain means and selecting a preferred interpretation and providing an indication of the preferred interpretation to the controller, and wherein the controller is arranged to output a preferred interpretation to an application program thereby permitting the application program to utilize recognized information to direct the output of said output means.

12. A recognition system as recited in claim **11** wherein:

the controller is capable of determining whether the received units need grouping;

said recognition system further includes database means coupled to said controller, said data base means including means for grouping and means for classifying received units when the controller determines that the received units need grouping, grouping the received units and passing the grouped units through the independent recognition domains and then placing the grouped units into a classification pool means.

13. A recognition system as recited in claim **11** wherein said recognition system further includes recognition area means coupled to said controller and said recognition area means representing physical areas on a tablet means identified for recognition, and wherein overlapped recognition areas define merged recognition areas capable of recognizing information in each of the overlapped recognition areas.

14. A recognition system as recited in claim **11** Wherein said controller means is receptive to stroke units derived from a tablet means.

15. A recognition system as recited in claim **14** wherein said recognition domains produce recognized units.

16. A recognition system as recited in claim **15** wherein said arbitration means is operative to pass stroke units and recognized units.

17. A recognition system as recited in claim **15** wherein arbitration means is receptive to returned units from an